

REMARKS

This is responsive to the Final Office Action dated April 27, 2005. Claims 26-41 were previously withdrawn. Claims 1-19 and 21-25 are active for examination. A request for Continued Examination is submitted concurrently herewith.

The Final Office Action rejected claims 1-3, 6-8, 10-12, 15-17, 19 and 21-22 under 35 U.S.C. §102(e) as being anticipated by Moon (U.S. Patent No. 6,405,047). Claims 5, 14 and 23 stood rejected under 35 U.S.C. §103(a) as being unpatentable over Moon in view of Havinis, et al. (U.S. Patent No. 6,671,377). Claims 4, 13 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Moon in view of Janhonen (U.S. Patent No. 6,023,618). Claims 24 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Moon in view of Keranen et al. (U.S. Patent No. 6,681,099). Claim 9 was objected to as being dependent upon a rejected base claim.

It is respectfully submitted that the rejections are overcome and the objection is addressed in view of the remarks presented herein.

The Rejection of Claims 1-3, 6-8, 10-12, 15-17, 19 and 21-22 Is Overcome

Claims 1-3, 6-8, 10-12, 15-17, 19 and 21-22 were rejected under 35 U.S.C. §102(e) as being anticipated by Moon. The anticipation rejection is respectfully overcome because Moon fails to disclose every limitation of the rejected claims.

Claim 1 recites:

A method of furnishing a location service comprising:
transmitting a specific signal pattern at given intervals from at least three base stations, wherein a location of a mobile terminal or station that receives said signal pattern is located by using positional information about said base stations, sending timing or information on a phase shift from reference time of each said signal pattern from said base stations, and signal pattern receiving time information;

making a change to the sending timing of said signal pattern from at least one of said base stations; and

responsive to the change of the sending timing of the signal pattern, notifying said mobile terminal or station of an altered reference time offset or information on a phase shift from the reference time of said sending timing or updated sending timing of said signal pattern.

Therefore, a method according to claim 1 determines a location of a mobile terminal or station based on information related to (1) timing of signals sent from the base stations, (2) positions of the base stations, and (3) timing of the signals received at the mobile terminal or station. The method further includes a step of deliberately changing the sending timing of the signal pattern from the base stations. For instance, the deliberate change may be a reference time offset. The mobile terminal is notified of such deliberate change in the sending timing of the signal pattern. Related discussions can be found in, for example, page 15, first paragraph of the written description.

In contrast, the system described in Moon does not deliberately alter or change the timing of sending pilot signals or sequences, and notify the mobile terminal of such deliberate change in the modified sending timing of the signal pattern.

In rejecting claim 1, the Office Action replicated the claim language and suggested that Moon might have disclosed these features in figs. 2-3 and 5, col. 4, lines 27-67 and cols. 5-10 of Moon. However, the cited paragraphs and figures of Moon only discuss and illustrate a time difference between the mobile station's system reference time $T_{ms}(t)$ and the base system's absolute system time $T_{bs}(t)$ caused by propagation delay time, and how calculations can be made for the mobile station to acquire information related to the base station's absolute system time. The cited sections and the figures in Moon, however, do not disclose that a base station should (1) make any changes to the timing of sending signal patterns or making a reference time offset, and (2) provides the mobile terminal with information about the sending timing of the signal pattern or the reference time offset. The time shifts shown in the Figs. 3 and 5 are caused by natural

propagation delays and not caused by a deliberate change made by the base stations. Accordingly, the base stations in Moon do not deliberately make a change to the timing for transmitting signal patterns, and notify said mobile terminal or station of an altered reference time offset or information on a phase shift from the reference time of said sending timing or updated sending timing of said signal pattern, as described in claim 1.

Since Moon fails to disclose every limitation of claim 1, Moon cannot support a prima facie case of anticipation. Accordingly, the anticipation rejection is untenable and should be withdrawn. Favorable reconsideration of claim 1 is respectfully requested.

Independent claims 10, 15 and 22 include descriptions related to deliberately making a change to the timing for transmitting signal patterns, and notifying said mobile terminal or station of an altered reference time offset or information on a phase shift from the reference time of said sending timing or updated sending timing of said signal pattern. As discussed earlier relative to claim 1, Moon fails to disclose these features. Therefore, claims 10, 15 and 22 are patentable over Moon.

Claims 2, 3, 6-8, 12, 16, 17 and 21, directly or indirectly, depend on claims 1, 10 and 15, respectively. Therefore, Claims 2, 3, 6-8, 12, 16, 17 and 21 are patentable over Moon by virtue of their dependencies.

Claim 19 describes a method for locating a mobile terminal or station. An ID of the mobile terminal or station, and a request for information on the sending timing of a specific signal pattern transmitted at given intervals from base stations in the vicinity of the mobile terminal or station are transmitted to a base station in a zone in which the mobile terminal or station locates. A location of the mobile terminal or station is determined based on an answer

from said base station, and respective receiving timing of the signal pattern from each of said base stations in the vicinity of the mobile terminal or station.

In contrast, Moon uses a phase difference based on phase errors of each tone signals. However, Moon does not measure a location of the mobile terminal or station based on (1) an answer from said base station, and (2) respective receiving timing of the signal pattern from each of said base stations in the vicinity of the mobile terminal or station. Accordingly, claim 19 is patentable over Moon.

Claim 21 depends on claim 19 and incorporates every limitation thereof. For at least the same reasons as for claim 19, claim 21 is patentable over Moon. Favorable reconsideration of claim 21 is respectfully requested.

The Rejection of Claims 5, 14 and 23 Is Overcome

Claims 5, 14 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Moon in view of Havinis.

As discussed earlier, Moon fails to disclose features of claim 1 and 10. The other document, Havinis, was cited for its discussions related to encryptions and does not alleviate the deficiencies of Moon. Since claims 5 and 14 depend on claims 1 and 10, respectively, claims 5 and 14 are patentable over the combination of Moon and Havinis by virtue of their dependencies.

Independent claim 23 includes descriptions related to deliberately making a change to the timing for transmitting signal patterns, and notifying said mobile terminal or station of an altered reference time offset or information on a phase shift from the reference time of said sending timing or updated sending timing of said signal pattern. As discussed earlier relative to claim 1 and claims 5 and 14, neither Moon nor Havinis discloses these features. Therefore, claim 23 is patentable over the combination of Moon and Havinis.

The Rejection of Claims 4, 13 and 18 Is Overcome

Claims 4, 13 and 18 indirectly depend on claims 1, 10 and 15, respectively, and were rejected as being unpatentable over Moon in view of Janhonen. As discussed earlier, Moon fails to disclose features of claim 1, 10 and 15. The other document, Janhonen, was cited for its purported discussion related to updating charging data, but does not alleviate the deficiencies of Moon. Accordingly, claims 4, 13 and 18 are patentable over the combination of Moon and Janhonen by virtue of their respective dependencies from claims 4, 13 and 18.

The Rejection of Claims 24 and 25 Is Overcome

Claims 24 and 25, directly or indirectly, depend on claim 22 and were rejected under 35 U.S.C. §103(a) as being unpatentable over Moon in view of Keranen. However, as discussed earlier relative to claim 22, Moon fails to disclose every limitation of claim 22. And Keranen was cited for its alleged discussion related to suing a server to store timing information. The cited sections of Keranen, however, do not alleviate the deficiencies of Moon. Therefore, Moon and Keranen, even if combined as suggested by the Office Action, do not meet every limitation of claims 24 and 25 which incorporate features of claim 22. Favorable reconsideration of claims 24 and 25 is respectfully requested.

The Objection to Claim 9 Is Addressed

Claim 9 indirectly depends on claim 1 and incorporates every limitation thereof. As discussed earlier, claim 1 is patentable. Accordingly, claim 9 also is patentable and is in condition for allowance. It is submitted that claim 9 is in appropriate form.

Conclusion

For the reasons given above, Applicants believe that this application is conditioned for allowance and Applicants request that the Examiner give the application favorable consideration

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and permit it to issue as a patent. However, if the Examiner believes that the application can be put in even better condition for allowance, the Examiner is invited to contact Applicants' representatives listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

A handwritten signature in black ink, appearing to read 'Wei-Chen Chen', written in a cursive style.

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